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10/586,283	11/06/2006	Kassem Ghorayeb	94.0052	3037

7590 01/02/2009  
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EXAMINER
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ALHJIA, SAIF A

ART UNIT	PAPER NUMBER
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2128

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/586,283	GHORAYEB ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	SAIF A. ALHIJA	2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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**DETAILED ACTION**

1. Claims 1-4 have been presented for examination.

Claim 5 has been cancelled.

**Response to Arguments**

2. Applicant's arguments filed 25 September 2008 have been fully considered but they are not persuasive.

**NON-PRIOR ART ARGUMENTS**

i) The Examiner acknowledges the amendments to the format of the specification and withdraws the specification objections previously presented.

ii) Applicants argue the 101 rejection of the claims by stating that the generation of a plan used to improve production constitutes a useful, concrete, and tangible result. However, the mere generation of a plan does not provide for a concrete or tangible result. In fact, the generation of a plan would constitute an abstract idea which is not considered a valid statutory category. Therefore the 101 rejections are MAINTAINED.

iii) Applicants argue the 112 2<sup>nd</sup> rejections of claims 1 and 2. Applicants argue that the **“converting each of the hydrocarbon fluid streams to a fluid model of a controller based on corresponding pseudo components used in the network simulators”** is neither vague or indefinite. The Examiner further notes that Applicants state that the specification defines the manner in which the fluid streams are converted. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., **conversion definition**) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). As per claim 2, the Examiner notes **Donaldson**, 16 F.3d at 1194, 29 USPQ2d at 1850 (stating that 35 U.S.C. 112, sixth paragraph **“merely sets a limit on how broadly the PTO may construe means-plus-function language under the rubric of reasonable interpretation.”**) and further, as per MPEP 2106, that the written description includes the original specification and the drawings and USPTO personnel are to give the claimed means plus function limitations **their broadest reasonable interpretation consistent with all corresponding structures or materials described in the specification** and their equivalents including the manner in which the claimed functions are performed. See *Kemco Sales, Inc. v. Control Papers Company, Inc.*, 208 F.3d 1352, 54 USPQ2d 1308 (Fed. Cir. 2000).

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The Examiner contends that claim can still be interpreted as indefinite specifically since the claim does not recite how pseudo components of a network are used to convert a fluid stream into a fluid model. Applicant's arguments support this conclusion since they do not point to the claims to resolve the indefiniteness but rather to portions of the specification. As such the 112 2<sup>nd</sup> rejection is **MAINTAINED**.

**The Examiner further notes that as per Applicants amendments to claim 1 and 2 the phrase “the hydrocarbon fluid streams” are rendered vague and indefinite since there is insufficient antecedent basis for this limitation in the claim.**

iv) Applicants argue the 112 2<sup>nd</sup> rejection of claim 3. Applicants state that the specification describes how **“global constraints are applied by apportioning them between simulation tasks.”** In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., **method of apportioning**) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. **See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).** The Examiner notes that the cited section of the specification merely includes exemplary methods of apportioning the constraints and no explicit definition is provided in either the claims or the specification. Therefore the 112 2<sup>nd</sup> rejection is **MAINTAINED**.

#### **PRIOR ART ARGUMENTS**

v) Applicants argue that the reference does not disclose converting multiple fluid streams to a common fluid model and further a coupled simulation. First in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., **converting multiple fluid streams to a common fluid model**) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. **See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).** Rather, the Examiner notes that the claims recite obtaining a coupled simulation of multiple fluid streams. In the interests of compact prosecution the Examiner notes that following the broadest reasonable interpretation of the claims the oil, water fluid flow as well as the hydrocarbon and non-hydrocarbon components as well as the multi-cell distribution of fluid calculation recited on the bottom right of page 428 would read on the multiple streams as recited. Second, since Applicants have provided no explicit definition for the coupling simulation it is unclear how the parallel processing and multiple components

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of the simulator do not read on the claims as presented, see Figures 2 and 3 of Briens. Therefore the prior art rejections are also **MAINTAINED**.

**EXAMINERS NOTES**

vi) Examiner has cited particular columns and line numbers in the references applied to the claims for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in their entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

vii) The Examiner respectfully requests, in the event the Applicants choose to amend or add new claims, that such claims and their limitations be directly mapped to the specification, which provides support for the subject matter. This will assist in expediting compact prosecution.

viii) Further, the Examiner respectfully encourages Applicants to direct the specificity of their response with regards to this office action to the broadest reasonable interpretation of the claims as presented. This will avoid issues that would delay prosecution such as limitations not explicitly presented in the claims, intended use statements that carry no patentable weight, mere allegations of patentability, and novelty that is not clearly expressed.

ix) The Examiner also respectfully requests Applicants, in the event they choose to amend, to supply a clean version of the presented claims in addition to the marked-up copy in order to avoid potential inaccuracies with the version of the claims that would be examined.

**PRIORITY**

3. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). Priority date is 23 November 2002.

**Claim Rejections - 35 USC § 101**

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

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**MPEP 2106 recites:**

The claimed invention as a whole must accomplish a practical application. That is, it must produce a “useful, concrete and tangible result” State Street 149 F.3d at 1373, 47 USPQ2d at 1601-02. A process that consists solely of the manipulation of an abstract idea is not concrete or tangibles. See In re Warmerdam, 33 F.3d 1354, 1360, 31 USPQ2d 1754, 1759 (Fed.Cir. 1994). See also Schrader, 22 F.3d at 295, 30 USPQ2d at 1459.

**4. Claims 1-4 are rejected** under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

i) See Section 2.ii above.

Appropriate correction is required.

All claims dependent upon a rejected base claim are rejected by virtue of their dependency.

**Claim Rejections – 35 USC § 112**

**The following is a quotation of the second paragraph of 35 U.S.C. 112:**

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**5. Claims 1-4 are rejected** under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

i) Claims 1 and 2 recite **“converting each of the hydrocarbon fluid streams to a fluid model of a controller based on corresponding pseudo components used in the network simulators”**. See Section 2.iii above.

ii) Claim 3 recites **“global constraints are applied by apportioning them between simulation tasks.”** See Section 2.iv above.

iii) The Examiner notes that as per Applicants amendments to claim 1 and 2 the phrase **“the hydrocarbon fluid streams”** are rendered vague and indefinite since there is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

All claims dependent upon a rejected base claim are rejected by virtue of their dependency.

**Claim Rejections - 35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**6. Claims 1-4 are rejected** under 35 U.S.C. 102(b) as being clearly anticipated by **Briens et al. “Application of Sequential Staging of Tasks to Petroleum Reservoir Modeling”**.

**Regarding Claim 1:**

**The reference discloses** A method of controlling the coupling of multiplatform reservoir and network simulators comprising:

synchronizing the advancement through time of the network simulators; (**Page 431, left column, second to last paragraph, "synchronization of parallel events"**) and

converting each of the hydrocarbon fluid streams to a fluid model of a controller based on corresponding pseudocomponents used in the network simulators. (**Introduction, paragraph 1, hydrocarbon and non-hydrocarbon components**) (**Page 428, bottom right. The oil, water fluid flow as well as the multi-cell distribution of fluid calculation**)

obtaining a coupled simulation using the converted hydrocarbon fluid streams; and (**Page 428, bottom right. The oil, water fluid flow as well as the multi-cell distribution of fluid calculation**)

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generating a plan based on the coupled simulation, wherein the plan is implemented to improve production of the multi-platform reservoir. **(The SST recited in at least Figure 7 would read on the generated plan. The Examiner further notes that "wherein the plan is implemented to improve production of the multi-platform reservoir" represents an intended use and is therefore not afforded patentable weight. However the conclusions 1-4 define the benefits of the approach taken by Briens)**

**Regarding Claim 2:**

**The reference discloses** A controller for coupling multiplatform reservoir and network simulators comprising:

Means for synchronizing the advancement through time of the network simulators; **(Page 431, left column, second to last paragraph, "synchronization of parallel events")** and

Means for converting each of the hydrocarbon fluid streams to a fluid model of a controller based on corresponding pseudocomponents used in the network simulators. **(Introduction, paragraph 1, hydrocarbon and non-hydrocarbon components) (Page 428, bottom right. The oil, water fluid flow as well as the multi-cell distribution of fluid calculation)**

Means for obtaining a coupled simulation using the converted hydrocarbon fluid streams; and **(Page 428, bottom right. The oil, water fluid flow as well as the multi-cell distribution of fluid calculation)**

Means for generating a plan based on the coupled simulation, wherein the plan is implemented to improve production of the multi-platform reservoir. **(The SST recited in at least Figure 7 would read on the generated plan. The Examiner further notes that "wherein the plan is implemented to improve production of the multi-platform reservoir" represents an intended use and is therefore not afforded patentable weight. However the conclusions 1-4 define the benefits of the approach taken by Briens)**

**Regarding Claim 3:**

**The reference discloses** The controller of claim 2 additionally comprising means for applying production and injection constraints to the coupled simulation by apportioning the production and injection constraints between the network simulators. **(Page 428, top left, production/injection)**



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**Regarding Claim 4:**

**The reference discloses** The controller of claim 3 additionally comprising means for balancing reservoir and surface networks. (**Introduction, paragraph 2, flow/material balancing. Page 432, left column, last two paragraphs, load balancing**)

**Conclusion**

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action.

Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. All Claims are rejected.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SAIF A. ALHIJA whose telephone number is (571)272-8635. The examiner can normally be reached on M-F, 11:00-7:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah can be reached on (571) 272-22792279. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. *Informal or draft communication, please label PROPOSED or DRAFT*, can be additionally sent to the Examiners fax phone number, (571) 273-8635.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SAA

December 22, 2008

/Hugh Jones/

Primary Examiner, Art Unit 2128